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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/642,224 | 08/18/2003 | Alex Haaht Gouliaev | 2815-0237P | 2206 |
| 2292 | 7590 | 11/08/2006 | | EXAMINER |
| BIRCH STEWART KOLASCH & BIRCH | | | HABTE, KAHSAY | |
| PO BOX 747 | | | | PAPER NUMBER |
| FALLS CHURCH, VA 22040-0747 | | | 1624 | |

DATE MAILED: 11/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/642,224 | GOULIAEV ET AL. | |
| | Examiner | Art Unit | |
| | Kahsay Habte | 1624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 30 October 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) 18-21,28-30 and 32 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-17,22-24,31 and 33 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 August 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/18/2003.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

1. Claims 1-24 and 28-33 are pending in this application.

Election/Restriction

2. Applicant's election with traverse of Group I, Claims 1-17, 22-24, 31 and 33 filed 10/30/2006 is acknowledged. The traversal is on the ground(s) that "the inventions claimed herein - all of which share structural formula (I) could most efficiently be examined together in a single application. Moreover, the Examiner will be examining e.g. claim 1 which reads on the elected invention, so that the Examiner will be examining the merits of a claim which reads on the elected inventions identified by the Examiner as Groups II-IV as well as on elected Group I." The examiner disagrees with applicant's argument. The inventions as set forth in the restriction requirement are different one from the other. For example, Group I is drawn to benzothiadiaznes (bicyclic) and is different from Group II that are drawn to benzoxazines. The core structures of the compounds in Groups I-IV are different one from the other. The search for Group I in STN chemical search or in the EAST database is different from the search of Groups II-IV. In fact, searching for Group I alone involves several searches in STN chemical search because of various definitions of R²-R⁸. Coexamination of each of the additional groups would require search of subclasses unnecessary for the examination of the elected claims. For example, the search for the invention of Group II would include search of subclass 544/92, the search for the invention of Group III would include search of subclass 544/287 and the search for the invention of Group IV would

include search of subclass of various classes and subclasses. Therefore, coexamination of each of these additional inventions would require a serious additional burden of search.

The requirement is still deemed proper and is therefore made FINAL.

3. The claims are drawn to multiple inventions for reasons set forth in the restriction requirement. The claims are examined only to the extent that they read on the elected invention. Cancellation of the non-elected subject matter is recommended in response to this Office Action. It is recommended that applicants delete non-elected subject matter in response to this Office Action. Note that the definitions of R²-R⁸ are given for the definitions of X = SO₂, CO or CH₂ at pages 3-6 and also for X = SO₂ at page 6-10. Since applicants elected Group I, the generic definition for R²-R⁸ at pages 3-6 should be deleted. Applicants have also to delete any definition of variables that would make formula (I) a tricyclic ring e.g. R³ together with R⁴ forms a 4- to 7-membered ring (see page 7). After deletion of the non-elected subject matter, applicants have to delete claim 31 since it does not narrow the claim limitation of claim 1.

Information Disclosure Statement

4. Applicant's Information Disclosure Statement, filed on 08/18/2003 has been acknowledged. Please refer to Applicant's copies of the 1449 submitted herewith.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 16, 24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon et al. U.S. Pat. No. 3,261,794. Cited reference at column 2 (lines 61-72, Example 7) discloses a compound of interest: 6-amino-3,4-dihydro-3-2H-1,2,4-Benzothiadiazine-7-sulfonamide that is almost the same as applicants when applicant's formula (I) has the following substituents:

$R^2 = H$; $R^3 = CF_3$; $R^4 = R^5 = H$; $R^6 = NH_2$; $R^7 = SO_2-N(alkyl)_2$;
 $m = 0$; and $R^8 = H$.

The only difference between applicants' compounds and the prior art compound is in the definition of variable R^7 on the benzo portion of the bicyclic ring. Applicants are claiming $R^7 = SO_2-N(alkyl)_2$ at least $SO_2-N-(CH_3)_2$, but the prior art compound does not have an alkyl groups (at least dimethyl groups) that are attached to the N (i.e. $R^7 = SO_2-NH_2$). Compounds that differ only by the presence or absence of an extra methyl group or two are homologues. Such a variation is considered obvious because of the close structural similarity. See *In re Hoeksema*, 154 USPQ 169; *Ex parte Weston*, 121 USPQ 428; *Ex parte Bluestone*, 135 USPQ 199; *In re Doebele*, 174 USPQ 158. Note also *In re Jones*, 21 USPQ2d 1942, which states at 1943 "Particular types or categories of structural similarity without more, have, in past cases, given rise to *prima facie* obviousness"; one of those listed is "adjacent homologues and structural isomers".

Similar is *In re Schechter and LaForge*, 98 USPQ 144, 150, which states "a novel useful chemical compound which is homologous or isomeric with compounds of the prior art is unpatentable unless it possesses some unobvious or unexpected beneficial property not possessed by the prior art compounds." Note also *In re Deuel* 34 USPQ2d 1210, 1214 which states, "Structural relationships may provide the requisite motivation or suggestion to modify known compounds to obtain new compounds. For example, a prior art compound may suggest its homologues because homologues often have similar properties and therefore chemists of ordinary skill would ordinarily contemplate making them to try to obtain compounds with improved properties."

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-17, 22-24, 31 and 33 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,943,159. Although the conflicting claims are not identical, they are not patentably distinct from each other because there is significant overlap between the subject matter between claims 1-17, 22-24 and 31 of the instant case and claims 1-20 of the U.S. Patent No. 6,943,159. For example, the first two species in claim 19 of the U.S. Patent No. 6,943,159 are the same as the 6th-8th species in claim 22 of the instant case. The species of claim 33 in the instant case is the same species as the one recited in claim 19 of the U.S. Patent No. 6,943,159 (see column 94, 14th species).

Claim Objections

8. Claims 1-2 and 23 are objected to because of the following informalities: the phrase "general formula" is objected because it is generic. A formula should be specific e.g. formula (I), formula A, formula 1, etc. and not general. It is recommended that applicants delete "general".
9. Claim 2 is objected to because of the following informalities: at page 11 (line 4), the phrase "represntshydrogen" is a typographical error. It should read as "represents hydrogen".
10. Claim 23 is objected to because the chemical structure is not drawn properly. There is an overlap between SO₂ and NH in the chemical structure.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 23, there is no definition for variable R⁴. What is it?

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kahsay Habte, Ph. D. whose telephone number is (571) 272-0667. The examiner can normally be reached on M-F (9.00AM- 5:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Wilson (Acting SPE) can be reached at (571) 272-0661. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kahsay Habte
Primary Examiner
Art Unit 1624

KH
November 6, 2006